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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/667,060

09/22/2003

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EXAMINER

HOANG, PHUONG N

ART UNIT

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2194

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/667,060	<b>Applicant(s)</b> SCHAFTLEIN ET AL.	
	<b>Examiner</b> PHUONG N. HOANG	<b>Art Unit</b> 2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 - 3, 5 - 32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 3, 5 - 32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. Claims 1 - 3, 5 – 32 are pending for examination. This office action is in response to amendment filed 3/5/09.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1- 3, 5 – 15, 18 – 19, 21 – 26, 29, 31 - 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Kimura, US patent no. 6,996,828 in view of Ronkka, US pub. no. 2004/0088710.**

4. Kimura and Ronkka references were cited in previous office action.

5. **As to claim 1**, Kimura teaches method comprising of:

reassigning resources (reassigned resources, col. 1 - 3) in a soft programmable logic controller (a soft programmable logic controller (multi-OS management program 204, col. 5 lines 1 – 4, col. 1 lines 30 – 60, col. 5 lines 1 - 5), said PCL comprising by a single computer (single computer, abstract, and figure 2 and associated text), said reassigning comprising the steps of:

selecting an interface in a first operating environment (first OS, col. 9 lines 35 – 55, col. 10 lines 55 - figures 9, 10, and 12 and associated text);

selecting a virtual slot in a second operating environment (entry point for second OS) for installation of the interface;

creating an installation file in the first operating environment (object file name, fig. 10 and associated text) for installation of the interface in the second operating environment; and

installing the interface in the second operating environment using the installation file to reassign a resource between the first operating environment and the second operating environment (load device driver of the second OS, col. 15 lines 15 - 25), and interrupt line of the reassigned resource (interrupt, figure 14 and associated text).

Kimura does not explicitly teach the step of real-time card and wherein the second operating system has a non-variable scan cycle timing.

Ronkka teaches real-time card (card, 0004) and the second operating system has a non-variable scan cycle timing (timer for OS\_A so called real-time operating system can not be lengthen or have been determined, 0003, 0060, 0085).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Kimura and Ronkka because Ronkka's Non-variable cycle timing can be used for predicting a response time for an interrupt and real-time operating systems are very efficient for controlling task, 0002).

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6. **As to claims 2 - 3**, Ronkka teaches wherein the first operating environment is non real-time operating environment and the second operating environment is real-time operating environment (OS\_A is real-time operating system, 0060).

7. **As to claim 5**, Ronkka teaches installing a real-time device driver (device drivers, 0051).

8. **As to claim 6**, Kimura teaches wherein the installing step overrides an installation of a device driver associated with the first operating environment (update, col. 11 lines 47 - 56).

9. **As to claim 7**, Kimura teaches during the creating step, installation parameters (parameter table 800) are obtained from the first operating environment and used in the creation of the installation file (object file name, figure 10 and associated text).

10. **As to claim 8 - 9**, Kimura teaches deleting the installation file (unload device driver, col. 10 lines 37 - 40).

11. **As to claim 10**, Kimura teaches interrupt (interrupt, figure 9A – 11 and associated text) sharing for the reassigned resource so that an interrupt may be used for more than one resource.

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12. **As to claim 11**, Kimura teaches the steps of displaying (display 114) the resource for reassignment; and selecting an empty interface slot in the second operating environment to receive the resource being one of an interface, a card, a device and a port.
13. **As to claim 12**, Kimura teaches modifying (update, col. 11 lines 47 – 56) installation parameters to specify an installation file for a real-time driver.
14. **As to claim 13**, Kimura teaches updating registry (figures 10, 17, and 19 and associated text).
15. **As to claim 14**, this is the method claim of claim 1. See rejection for claim 1 above.
16. **As to claim 15**, see rejection for claim 2 above.
17. **As to claims 18**, Kimura teaches modifying (modifying for each particular device, col. 6 lines 10 – 20) to installation parameters to specify an installation file for a real-time driver.
18. **As to claim 19**, see rejection for claim 11 above.

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19. **As to claim 21**, Ronkka teaches the resource being one of a card, a port, an interface, and a device (peripherals, 0030).

20. **As to claim 22**, this is the system claim of claim 1. See rejection for claim 1 above.

21. **As to claim 23**, Ronkka teaches reassigning the resources to a real-time operating environment (0037, 0060).

22. **As to claim 24**, see rejection for claim 18 above.

23. **As to claims 25 - 26**, Kimura teaches wherein the installing step overrides an installation of a device driver associated with the first operating environment (update, col. 1 lines 50 - 55).

24. **As to claim 29**, Kimura teaches interrupt (interrupt, col. 5 lines 40 – 45) for the reassigned resource so that an interrupt may be used for more than one resource.

25. **As to claim 31**, see rejection for claim 21 above.

26. **As to claim 32**, this is the product claim of claim 1. See rejection for claim 1 above.

**27. Claims 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Kimura, US patent no. 6,996,828 in view of Ronkka, US pub. no. 2004/0088710, and further in view of Halang “Real-time Systems” pages 291 – 313.**

28. Halang reference is cited by applicant in IDS filed 8/7/06.

29. **As to claim 17**, Kimura and Ronkka do not explicitly teach associating the assigned resource with a software component instance.

Halang teaches wherein the assigning step includes associating the assigned resource with a software component instance (instance, page 303).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Kimura, Ronkka, and Halang because Halang’s software component instance would maintain the data structure from one execution of the function block to the next one (page 303).

30. **As to claim 20**, Halang teaches building a list of available drivers for the selected resource (p. 310).



**31. Claims 27 - 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura, US patent no. 6,996,828 in view of Ronkka, US pub. no. 2004/0088710, and further in view of Philyaw, US patent. no. 6,725,260.**

32. Philyaw was cited in previous office action.

**33. As to claim 27 - 28,** Kimura and Ronkka do not explicitly teach the step of deleting the installation file.

Philyaw teaches deleting the installation file (uninstall, col. 32 lines 8 – 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Kimura, Ronkka, and Philyaw because Philyaw's deleting installation file would clean up all unwanted driver files and only maintain current or updated driver files for the system.

**34. Claims 16 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura, US patent no. 6,996,828 in view of Ronkka, US pub. no. 2004/0088710, and further in view of Wilson, US pub. no. 2003/0041088.**

35. Wilson was cited in previous office action.

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36. **As to claims 16 and 30**, Wilson teaches updating registry (0018, figure 6 and associated text).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Kimura, Ronkka, and Wilson's system because the registry would store archival device information and identify newly installed devices (0018).

### ***Response to Arguments***

37. Applicant's arguments, regarding to 101 rejection are persuasive and the arguments regarding to 35 U.S.C. 103(a) have been fully considered but are not persuasive.

38. Applicant argued that Kimura do not teach the use of non-variable scan cycle timing as to claims 1, 14, 22, and 32 (page 12 - 13); as described in the previous response of October 3, 2008, a real-time operating system is not the same as an operating environment with non-variable scan cycle. Ronkka does not disclose the use of non-variable scan cycle timing.

In response, examiner did not cite Kimura for teaching the step of the use of non-variable scan cycle timing. The response of October 3, 2008 in the RCE were moot, and examiner changed the new ground of rejection to cite Ronkka for teaching non-variable scan cycle timing. The use of non-variable scan cycle timing is the use of

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timer with fixed or determined or non-variable cycle as disclosed in page 7. Therefore, Ronkka teaches the second operating system has a non-variable scan cycle timing (timer for OS\_A so called real-time operating system can not be lengthen or have been determined, 0003, 0060, 0085). The OS has fixed or determined or non-variable timer/timing.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

39. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUONG N. HOANG whose telephone number is (571)272-3763. The examiner can normally be reached on Monday - Friday 9:00 am to 5:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng A. An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Li B. Zhen/  
Primary Examiner, Art Unit 2194

/P. N. H./  
Examiner, Art Unit 2194